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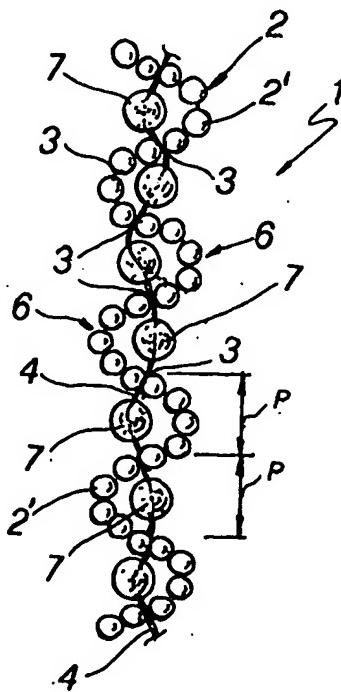
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(75) Inventor/Applicant (*for US only*): **RACCANELLO, Daniela [IT/IT]; Via M. Canin, 33, I-36061 Bassano Del Grappa (IT).**(74) Agent: **MAROSCIA, Antonio; Maroscia & Associati S.r.l., Corso Palladio, 42, I-36100 Vicenza (IT).**(54) Title: **METHOD OF MANUFACTURING JEWELRY NETWORK STRUCTURES AND NETWORK STRUCTURES OBTAINED WITH SUCH METHOD**

(57) **Abstract:** Method of manufacturing of goldsmith network structure including the steps of providing a longitudinal warp member (2) constituted by a chain formed by one or more lines of links or modular elements and provided with interstices (3) between the links or modular elements, providing a weft member (4) constituted by a flexible threadlike core, inserting the weft member (4) in the warp member (2) along a direction substantially perpendicular to the longitudinal extension of the latter, at locations at predetermined distance (P, P', P'') from each other. The goldsmith network structure includes a longitudinal warp member (2) comprising a chain formed by one or more lines provided with interstices (3) between adjacent links or modular elements, and a weft member (4) comprising a flexible thread-like core inserted in the warp member (2) in a direction substantially perpendicular to the longitudinal direction of the latter at positions at predetermined distances (P, P', P'') from each other to define adjacent bights (6, 6') of the network structure.

**WO 01/52683 A1**

METHOD OF MANUFACTURING JEWELRY NETWORK STRUCTURES AND NETWORK STRUCTURES OBTAINED WITH SUCH METHOD

Field of the invention

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The present invention relates to a method of manufacturing goldsmith network structures as well as goldsmith network structures obtained with such method.

10

State of the art

Jewellery in gold and other precious and semi-precious metals are currently made in goldsmith's art by coupling and interweaving a plurality of necklace lines of various shape and length.

15

The currently used manufacturing methods provide that coupling is accomplished by placing a plurality of necklaces in substantially parallel fashion, optionally connecting them either at the ends thereof where closures are attached, or at the central portion thereof where lockets are placed.

20

EP-A-0 495 100 discloses a metallic mesh for ornamental goods in which a large number of metallic wires are step to randomly intersect with each other. GB-A-2 294 863 describes an item of jewellery comprising a frame network and meshed items of jewellery and a net supported on the frame and formed 25 by strings of pearls.

However, heretofore nobody has ever designed to connect the necklace lines with each other or with other wire-like articles in substantially perpendicular direction in such a manner to provide a weft having a particularly pleasant, 30 various and pretty aspect.

Disclosure of the invention

The present invention is aimed at conceiving a method of manufacturing of  
5 goldsmith network structures starting from simple chains arranged in single or  
multiple lines in such a manner to confer to the whole structure a new and  
varied aspect, and which is at the same time particularly light and elegant.

In accordance with one preferred aspect of the invention, there is provided a  
10 method of manufacturing goldsmith network structures that, in accordance  
with claim 1, comprises the following steps:

- a) providing a warp member extending in a longitudinal direction, said  
element being constituted by a chain with one or more lines of links or  
modular elements, said chains having interstices between the links or  
15 modular elements;
- b) providing at least a weft member constituted by a flexible threadlike core;
- c) inserting said at least one weft member in the interstices of said warp  
member along a direction substantially perpendicular to the longitudinal  
direction of the latter, at positions at predetermined distance from each  
20 other to form adjacent bights defining a network structure.

A further aspect of the invention provides a goldsmith network structure  
which, in accordance with claim 10, is characterised by a warp member  
extending in a longitudinal direction, said warp member comprising a chain  
25 formed by one or more lines provided with interstices between adjacent links  
or modular elements, and at least a weft member comprising a flexible thread-  
like core inserted in said warp member in a direction substantially  
perpendicular to the longitudinal direction of this latter at positions at  
predetermined distances from each other to define adjacent bights of said  
30 network structure.

### Brief description of the drawings

Further features and advantages of the invention will be more apparent in the light of the following description of a preferred but not exclusive embodiments 5 of goldsmith network structures obtainable with the method according to the invention, illustrated by way of a non-restrictive example with the help of the appended drawings sheets in which:

Fig. 1 shows a side view of a first embodiment of goldsmith network structure according to the invention;

10 Fig. 2 shows an elevation view of the goldsmith network structure of Fig. 1;

Fig. 3 shows a side view of a second embodiment of goldsmith network structure according to the invention;

15 Fig. 4 shows an elevation view of the goldsmith network structure of Fig. 3;

Fig. 5 shows a first step of the manufacturing method of the structure shown in Fig. 1;

Fig. 6 shows a second step of the manufacturing method of the structure shown in Fig. 1;

20 Fig. 7 shows a third step of the manufacturing method of the structure shown in Fig. 1.

### Description of a preferred embodiment

25 With reference to the above mentioned figures, a goldsmith network structure according to the invention, generally indicated with reference numeral 1, comprises a member 2 which is hereinafter indicated as "warp" member, and is essentially constituted by one or more lines of chain in single, double or "twin" or multiple arrangement, each having a longitudinal extension and a  
30 nearly sinusoidal configuration.

The warp chain member 2 is formed by one or more lines of links or modular elements 2' reciprocally connected to define therebetween a plurality of interstices or cavities 3 along their longitudinal extension, for example in correspondence of the connecting points between the annular links or modular elements 2'.

According to the invention, there is provided a member 4 named hereinafter "weft" member which is essentially constituted by a flexible and extremely thin, thread-like core, for example a pressed or hammered "rolò" gold thread, that is attached at one end thereof to a needle 5 or similar tool, for example a goldsmith soldering wire.

Using the tool 5, the weft thread-like member 4 is inserted through the interstices 3 of the warp member 2 along a direction substantially perpendicular to the longitudinal extension of the latter, thus forming a network and hence a goldsmith network structure with adjacent bights or loops.

- 20 Advantageously, the thread-like core of weft member 4 is arranged to cross the chain warp member 2 at portions of the latter at predetermined distances of constant value P or variable value P', P'' to define bights of equal span 6 or different span 6' as requested.
- 25 Additionally, the thread-like member 4 may have different plan shapes in such a manner to assume flower-like or similar configurations not shown in the figures.

Optionally, inside the bytes of the network structure there may be inserted ornamental elements constituted e.g. by balls 7, tubular sleeves 8 or precious

and semi-precious stones not shown in the figures.

Further, as mentioned before, the warp chain member 2 may be formed by a plurality of mutually parallel lines to thereby define concentric circular sectors  
5 of chain.

After having inserted the weft thread-like core member 4 in the recess of the warp chain member 2, end members not shown in the drawings may be inserted to provide mutual fixation of the two members 2, 4 and to stabilise  
10 the structure as a whole.

The network structure 1 obtainable with the above described method of manufacturing is formed by the combination of the warp member 2 comprising a single or multiple lines chain each formed by a plurality of  
15 adjacent links or modular elements 2' mutually connected and provided with interstices 3 between the adjacent links or modular elements 2', and of a weft member 4 comprising a flexible thread-like core inserted into the interstices of the warp member 2 in a substantially perpendicular direction with respect to the longitudinal extension of the latter, at positions at predetermined mutual  
20 distances so as to form a network structure with adjacent bights.

Although the manufacturing method and the network structure according to the invention has been described with reference to the figures, they are susceptible of many modifications and variants all of which fall within the  
25 concept of the invention defined in the appended claims.

All details may be replaced with other equivalents and the material may be different according to the circumstances.

30 The instant application is based upon Italian patent application

VI2000A000014, filed on 19 January 2000, the disclosure of which is hereby expressly incorporated by reference thereto, and the priority of which is hereby claimed.

## CLAIMS

1. Method of manufacturing goldsmith network structures comprising the following steps:

- 5           a) providing a warp member (2) extending in a longitudinal direction, said warp member being constituted by a chain formed by one or more lines of links or modular elements, said chains having interstices (3) between the links or modular elements (2');
- 10          b) providing at least a weft member (4) constituted by a flexible threadlike core;
- 15          c) inserting said at least one weft member (4) in the interstices of said warp member (2) along a direction substantially perpendicular to the longitudinal direction of the latter, at positions at predetermined distance (P, P', P'') from each other to form adjacent bights (6, 6') defining a network structure.

2. Method according to claim 1, characterised in that the distance (P) between the insertion positions is constant.

20         3. Method according to claim 1, characterised in that the distance (P', P'') between the insertion positions is variable.

25         4. Method according to claim 1, characterised in that a plurality of ornamental elements (7, 8) are inserted in the adjacent bights of said warp member.

5. Method according to claim 4, characterised in that said ornamental elements comprise balls (7) or precious and semi-precious stones.

30         6. Method according to claim 4, characterised in that said ornamental

elements comprises tubular sleeves (8) of precious or semi-precious materials.

7. Method according to claim 1, characterised in that said warp member  
5 (2) is a double chain with two side by side or "twin" lines.

8. Method according to claim 1, characterised in that said warp member  
is a chain with annular links.

10 9. Method according to claim 1, characterised in that said core defining  
the weft member (4) is a chain of "rolò" pressed-type.

10. Goldsmith network structure, characterised by a warp member (2)  
extending in a longitudinal direction, said warp member comprising a chain  
15 formed by one or more lines provided with interstices (3) between adjacent  
links or modular elements, and a weft member (4) comprising a flexible  
thread-like core inserted in said warp member (2) in a direction substantially  
perpendicular to the longitudinal direction of this latter at positions at  
predetermined distances (P, P', P'') from each other to define adjacent bights  
20 (6, 6') of said network structure.

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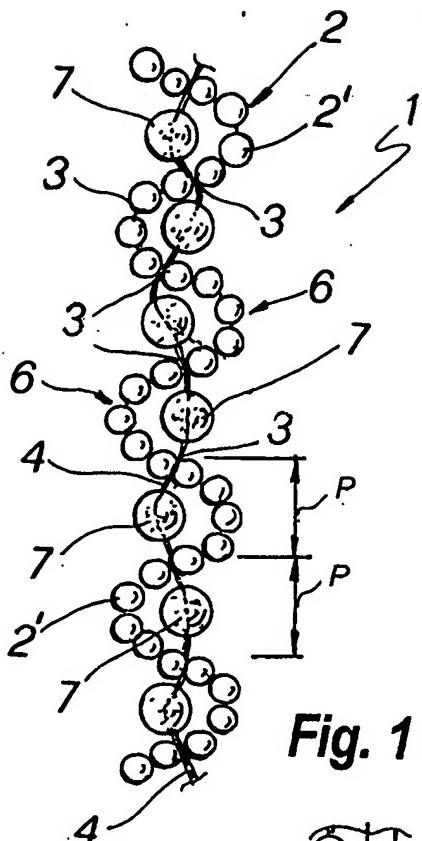


Fig. 1

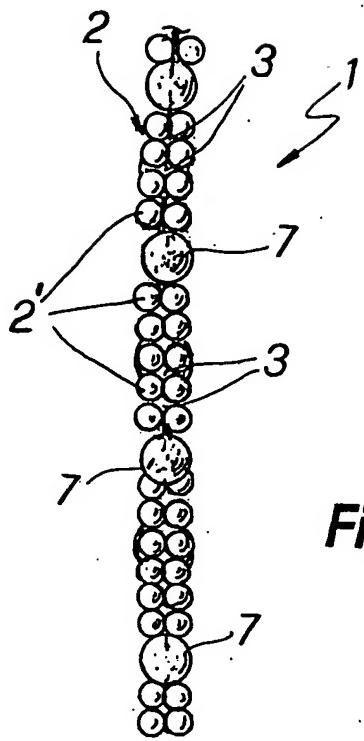


Fig. 2

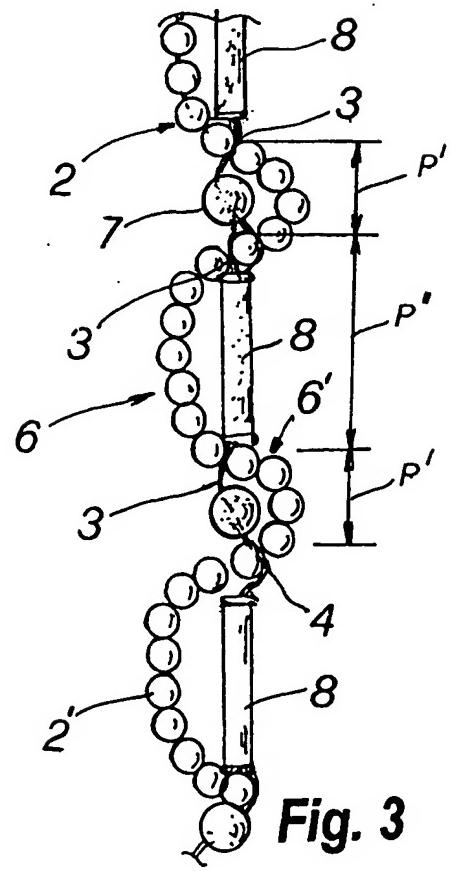


Fig. 3

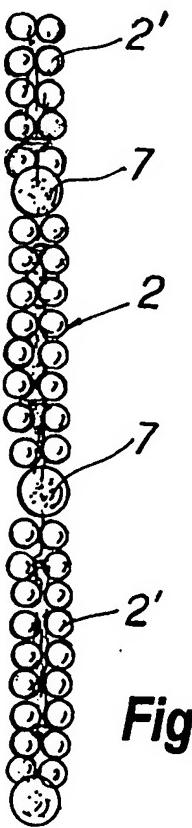


Fig. 4

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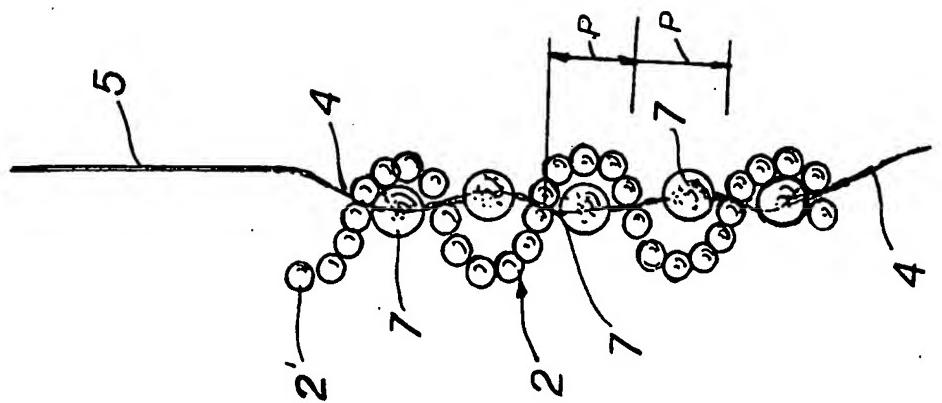
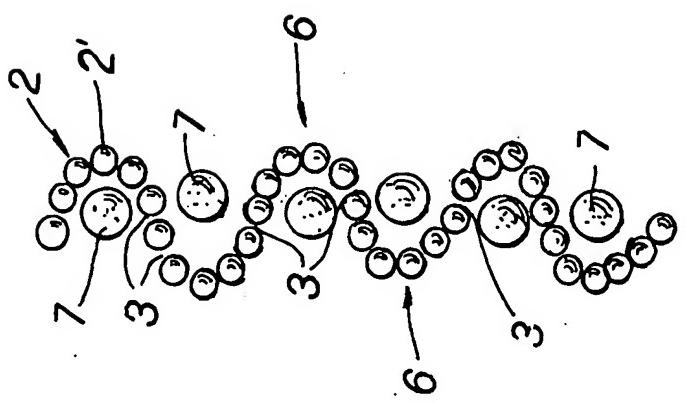
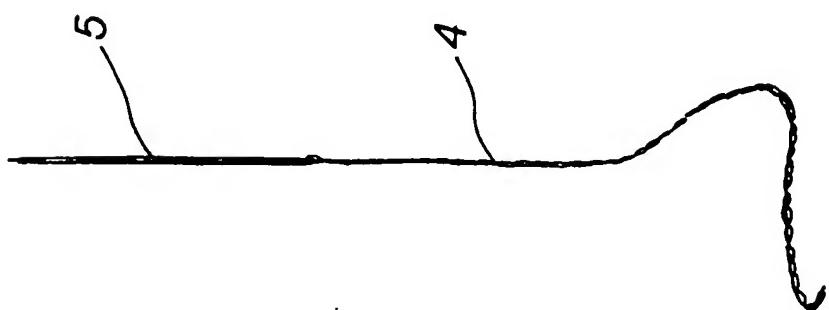


Fig. 7



**Fig. 6**



**Fig. 5**

## INTERNATIONAL SEARCH REPORT

Intern. Application No  
PCT/IB 00/00322

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 A44C11/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 A44C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category | Citation of document, with indication, where appropriate, of the relevant passages                                | Relevant to claim No. |
|----------|---|-----------------------|
| A        | US 3 742 730 A (POWELL E)<br>3 July 1973 (1973-07-03)<br>column 2, line 55 -column 3, line 39;<br>figure 3<br>--- | 1,10                  |
| A        | FR 689 745 A (ESCALES)<br>2 October 1930 (1930-10-02)<br>the whole document<br>---                                | 1,10                  |
| A        | US 1 499 769 A (GODEFROY M)<br>1 July 1924 (1924-07-01)<br>the whole document<br>-----                            | 1,10                  |

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
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## INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter [REDACTED] Application No

PCT/IB 00/00322

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|--|------------------|-------------------------|------------------|
| US 3742730 A                           | 03-07-1973       | US 3650010 A            | 21-03-1972       |
| FR 689745 A                            | 02-10-1930       | NONE                    |                  |
| US 1499769 A                           | 01-07-1924       | NONE                    |                  |